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**UNIVERSITI SAINS MALAYSIA**

First Semester Examination  
2014/2015 Academic Session

December 2014 / January 2015

**BMT 202/3 - Mycology**  
***[Mikologi]***

Duration : 3 hours  
*[Masa : 3 jam]*

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Please ensure that this examination paper contains SIX printed pages before you begin the examination.

*[Sila pastikan bahawa kertas peperiksaan ini mengandungi ENAM muka surat yang bercetak sebelum anda memulakan peperiksaan ini.]*

**Instructions:** Answer **FIVE** (5) out of **SIX** (6) questions, in English or Bahasa Malaysia. Each question carries 20 marks.

**[Arahan:** Jawab **LIMA** (5) daripada **ENAM** (6) soalan yang diberikan dalam Bahasa Inggeris atau Bahasa Malaysia. Tiap-tiap soalan bernilai 20 markah.]

In the event of any discrepancies, the English version shall be used.

*[Sekiranya terdapat sebarang percanggahan pada soalan peperiksaan, versi Bahasa Inggeris hendaklah diguna pakai].*

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1. Write short notes on the following :

*Tulis nota pendek tentang yang berikut :*

- [a] Characteristics of fungi.

*[Ciri kulat.]*

(10 marks / 10 markah)

- [b] Fungi ecological strategies .

*[Strategi ekologi kulat.]*

(6 marks / 6 markah)

- [c] The importance of fungi to the ecosystem and human life.

*[Kepentingan kulat pada ekosistem dan kehidupan manusia.]*

(4 marks / 4 markah)

2. [a] Provide the definition for each of the following terms :

*[Berikan takrifan bagi setiap istilah berikut :]*

- [i] Plasmogamy

*[Plasmogami]*

- [ii] Karyogamy

*[Kariogami]*

- [iii] Sclerotia

*[Sklerotia]*

- [iv] Hyphae

*[Hifa]*

- [v] Lichen

*[Liken]*

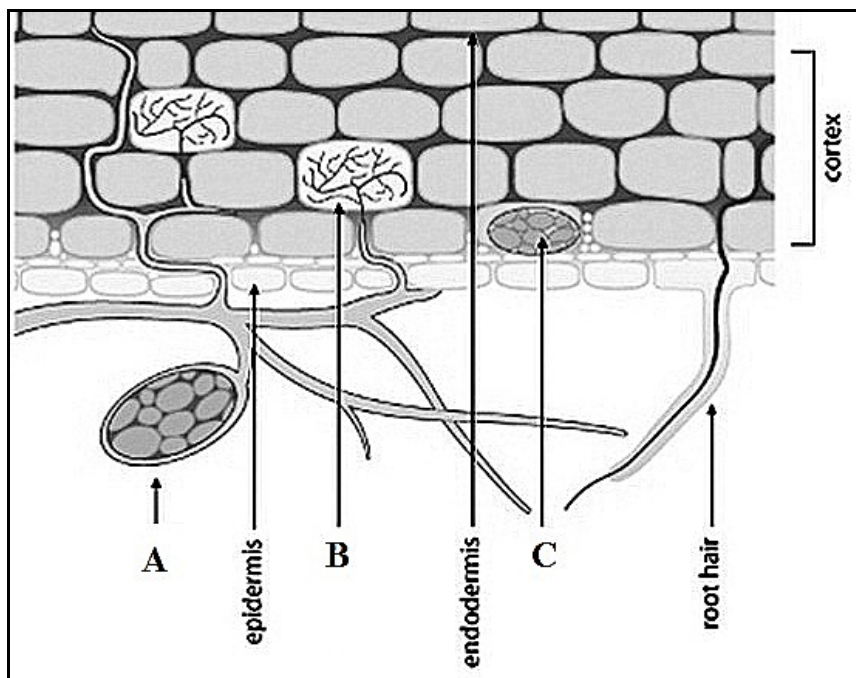
(10 marks / 10 markah)

- 3 -

- [b] Draw, label and write a short note on asexual reproduction of Zygomycota.

*[Lukis, label dan tulis nota ringkas tentang pembiakan aseksual Zygomycota.]*

(10 marks / 10 markah)



3. [a] The diagram above depicts a mutualistic association between two organisms.

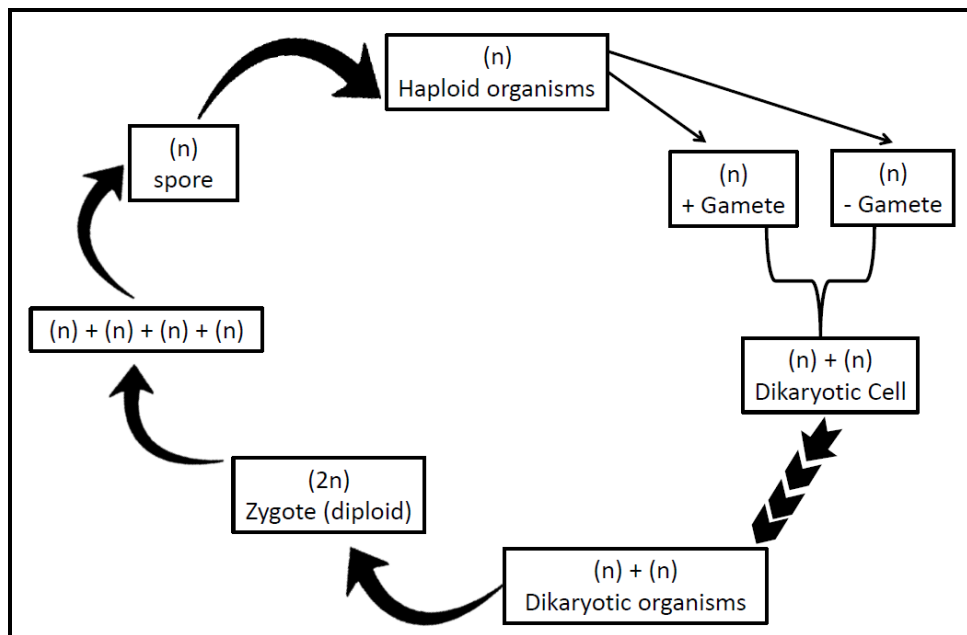
Label structures A, B and C. Write short notes on the association and how it benefits both organisms.

*[Gambarajah di atas menunjukkan hubungan mutualistik antara dua organisma.]*

*[Labelkan struktur A, B dan C. Tulis nota ringkas berkaitan hubungan tersebut dan bagaimana ia memberi manfaat kepada kedua-dua organisma.]*

(10 marks / 10 markah)

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- [b] Describe the method of reproduction in fungi as shown in the above diagram.

[Huraikan cara pembiakan kulat yang ditunjukkan dalam gambarajah di atas.]

(10 marks / 10 markah)

- 5 -

4. Based on the conidium formation of Anamorphic fungi (Fungi Imperfecti or Deuteromycota), describe briefly Kananakis terms for the following :

*[Berdasarkan pada pembentukan konidium oleh kulat Anamorf (Kulat Imperfecti atau Deuteromycota), jelaskan secara ringkas istilah Kananakis berikut :]*

- [a] The conidium ontogeny.  
*[Ontogeni konidium.]*
- [b] The types of conidial cell wall origin.  
*[Jenis-jenis asal-usul dinding sel konidium].*
- [c] **THREE** (3) types of the conidial loci.  
*[TIGA (3) jenis lokus konidium.]*
- [d] The arrangement of conidia at a locus.  
*[Susunan konidium pada satu lokus.]*
- [e] The conidium secession and scars.  
*[Sesesi dan parut konidium.]*

(20 marks / 20 markah)

5. [a] Describe the characteristics and relationships of the Archiascomycetes and Saccharomycetales.

*[Huraikan ciri dan hubungan antara Archiascomycetes dan Sacchoromycetales.]*

(10 marks / 10 markah)

- [b] Describe the morphological and ecological characteristics of Order Erysiphales and inoperculate discomycetes and their estimated phylogenetic relationships.

*[Huraikan ciri morfologi dan ekologi Order Erysiphales dan diskomiset inoperkulate dan juga anggapan hubungan filogenetik antara mereka.]*

(10 marks / 10 markah)

6. Explain briefly the following :

*[Jelaskan secara ringkas yang berikut :]*

[a] The characteristics of Chytridiomycota.

*[Ciri Chytridiomycota.]*

[b] The characteristics of Plasmodiophorid.

*[Ciri Plasmodiophorid.]*

[c] The characteristics of Oomycota.

*[Ciri Oomycota.]*

[d] The fungus and fungal-like vectors transmitting plant pathogenic viruses.

*[Kulat dan kulat seperti vektor menghantar virus patogen tumbuhan.]*

(20 marks / 20 markah)